

CLAIMS

1. A fuel cell device comprising:

at least two fuel cells, each comprising a solid-electrolyte layer having first and second surfaces,  
5 an anode layer formed on the first surface of the solid-electrolyte layer, and a cathode layer formed on the other surface of the solid-electrolyte layer;

said at least two fuel cells being mutually arranged in such a manner that said anode layer  
10 of one of said fuel cells faces said anode layer of another, adjacent fuel cell with a predetermined space between them and said space extends from a lower position to an upper position; and

a fuel supply unit for supplying fuel into  
15 said space at the lower position thereof so that a flame is formed in said space in a direction in which said space extends.

2. A fuel cell device as set forth in claim 1, wherein said at least two fuel cells have respective  
20 cylindrical shapes, which are concentrically arranged in such a manner that said space defines an annular-shaped space between said anode layers of the two adjacent fuel cells.

3. A fuel cell device as set forth in claim 1, wherein said at least two fuel cells have respective  
25 flat-shapes, which are arranged in parallel to each other in such a manner that said space defines a flat space having a predetermined width between said anode layers of the adjacent two fuel cells arranged in parallel.

30 4. A fuel cell device as set forth in claim 1, wherein said fuel supply unit is a gaseous fuel supply unit.

5. A fuel cell device as set forth in claim 1, wherein said fuel supply unit is a liquid fuel supply  
35 unit.

6. A fuel cell device as set forth in claim 1, wherein said anode layer is made of a fired material

mainly composed of NiO in which Li is contained in a solid solution.